



GPS

With complete global positioning systems available from just £160, you need never get lost again. We've taken 16 sat nav devices out on the road to find out which product will put you on the right track

Satellite navigation adds around £1,000 to the cost of a new car. That's not surprising considering the technology, which involves a constellation of 24 satellites orbiting the earth (see *How It Works* on page 238 for more details). What is surprising is that you can now buy a standalone satellite navigation system for just £160 including VAT. And once you've bought a global positioning system (GPS), you can use it as much as you like without having to pay any extra for using the service.

There are a large number of different navigation software packages available, as well as

an increasing number of standalone systems. The kind of navigation system you need will vary, depending on whether you want to start from scratch with a standalone system or feel you can upgrade your existing PDA or smartphone.

Whatever your needs, you'll find your perfect system in this Labs review. We've collected 16 systems that are self-contained, run on Windows Mobile or Palm OS personal digital assistants (PDAs), or are compatible with Nokia or Windows smartphones. We took each system on a road trip – read on to find out which got us to our destination without a hitch.

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CHOOSING A... GPS DEVICE

Wherever your travels may take you, there's a GPS device that can get you there. Our buying guide will steer you in the right direction towards the perfect travel companion

The GPS navigation industry is growing at a phenomenal rate. Look at any website that specialises in GPS navigation software and hardware, and you'll get an idea of just how many systems are on the market. If you need to make sense of the wide array of products, this guide should steer you to your buying destination.

FORMAT WARS

There are four types of GPS device available: standalone units, PDAs with built-in GPS antennas, upgrade kits for regular PDAs and upgrade kits for smartphones. The standalone units and GPS PDAs have GPS receivers built in, but the kits for PDAs and smartphones provide a software package and a separate GPS receiver, which connects to your PDA or phone via Bluetooth.

Kits for PDAs or smartphones are often cheaper than standalone systems, so if you already have the right hardware it makes sense to consider one of these. PDA GPS software is available for Windows Mobile and Palm OS, while the smartphone kits come in Symbian (for Nokia Series 60, Series 80 and Sony Ericsson UIQ phones) and Windows Mobile for Smartphones editions. All the kits tested here use a Bluetooth receiver, so you'll need a PDA or smartphone with Bluetooth built in.

PDA or smartphone software is usually supplied preinstalled on mini-SD, SD or RS-MMC cards. These vary in capacity from 128MB to 256MB. The smaller size is fine for UK maps, but installing maps for the whole of Europe requires up to 256MB of free space. NavMan's 4420 is the only GPS system that isn't shipped with a memory card, so you'll need to provide your own.

To ensure that you can't install the software and maps on several PDAs or smartphones, the software requires activation. This can be done using the internet, or via text message if you are using a phone. Once activated, the software is locked to a particular device, so those who regularly change

HOW WE TESTED

It is impossible to judge how well a GPS system will navigate to your destination without taking it on the road, so we took each system for a drive in and around London. Our test route went from central London to the north London suburbs, then back to the south. The route had a good mix of inner-city driving with plenty of one-way streets, plus suburban navigation along small residential streets. Our

offices are within the Congestion Charge zone, so we could see if the systems warned us that our route crossed the zone.

We also performed speed tests on each unit. We timed how long it took to plan a route from the *Shopper* offices to south-west London to test how each system coped with a route in a city. We then planned a longer route from our offices to Princes Street in Edinburgh. Finally, we checked whether or not each system had a function that would route us around a closed road or roadblock.

their phone or PDA might be better off with a standalone system. Standalone systems also have far louder speakers than PDAs or phones, making them easier to hear in a car.

WORLD LEADERS

All the GPS systems we tested have UK maps, but only three include Ireland and just four cover Western Europe. The Mio systems include Eastern Europe as well, but you can buy extra maps if you need to travel further afield.

GPS systems also vary in how you input your destination. The Garmin system lets you input all seven characters of a UK postcode; the rest support four or five characters to narrow the search down, but you'll need to enter a street after that. All the systems let you navigate to a Point of Interest (POI). These are broken into categories such as petrol stations, tourist attractions or restaurants, and you can download new POI files from the internet to transfer on to your device.

In our tests, we paid careful attention to how long it took for a GPS device to calculate a route. This minimises the time you spend at the start of a journey waiting for your route to be determined. It is also a good indication of how long a system will take to recalculate your journey should you take a

wrong turning. If a system is very slow to recalculate, you may have to pull over to give it a chance to get back on track.

Stress-free navigation also depends on how quickly your GPS updates its display after you've taken a turn. Most of the systems we tested updated almost immediately, but one was so slow to catch up that we had already missed the next turning by the time the unit had updated.

RELIEVING CONGESTION

If you have to drive regularly around London, forgetting to pay the Congestion Charge can leave you with a hefty fine. Seven of the GPS kits we tested warn you when you have planned a route through the congestion zone, and can be set to avoid it if possible.

All the systems in the group will recalculate a route at the touch of a button. However, 12 have a dedicated roadblock function, which is very useful for navigating around closed roads. Most systems ask you to specify how far down the road the block is, but the Navicore and Navman SmartST systems go one step further. Navicore lets you select blocked roads on an overhead map, while with Navman SmartST you can draw a square on your PDA's screen indicating an area to avoid.

LABS VERDICT GPS DEVICES

With one exception, all the GPS systems here are capable of getting you to your destination quickly and efficiently. We were particularly impressed that some systems allowed you to navigate through the trickier parts of London,

although some packages were easier to use than others.

Among the standalone systems, the Evesham BM6380 and TomTom Go 300 impressed. The Evesham's navigation was second to none, but the TomTom's interface is so fast and

easy to use that it has to be the Best Buy. Acer's n35 is amazing value for a combined PDA and navigation system, so is perfect for those on a budget.

The CoPilot software for Pocket PC has a well-designed interface and display, but it runs much slower than

TomTom's Navigator 5, so the Best Buy for Pocket PC use goes to TomTom.

The TomTom Mobile software couldn't match the Navicore system's navigation around town, though. The Navicore GPS kit takes the Best Buy award for a smartphone GPS system.

GPS STANDALONE KIT

**TOMTOM
Go 300**



GPS PDA

**ACER
n35 GPS**



POCKET PC GPS KIT

**TOMTOM
Navigator 5 Pocket PC Bluetooth**



SMARTPHONE KIT

**NAVICORE
Personal for Series 60**





REVIEW STANDALONE GPS

ADVENT
GPS 400

RATING ★★★★★

PRICE £269 inc VAT

SUPPLIER PC World 08702 420444

DETAILS www.pcworld.co.uk

Advent's GPS 400 uses the same Navigon mapping software as Mio's 269+. It has less storage space for music than Mio's 269+, but it is far cheaper.

The GPS 400 is compact, although there's a large bulge on the right-hand side. There are short cut buttons to the right of the screen to scroll through the options and adjust zoom and volume, but they are stiff and hard to press.

Finding an address is not as easy as on the TomTom unit, but it's still fairly straightforward. You can enter up to four letters of a postcode, followed by the street name. The main problem with the interface is that it runs very slowly; there's a perceptible lag between you typing a letter and it appearing onscreen.

The Navigon mapping software is excellent. Voice prompts are clear and given in advance and on arriving at a turning. The software copes well with turnings that come soon after one another, giving a clear 'left, then left again' prompt. The display is clear, with easily readable text and a highly visible route.

Advent's GPS 400 is not as slick or as easy to use as TomTom's Go 300, but its navigation software is superior and it is slightly cheaper.

✓ Accurate navigation ✗ Slow interface and route planning

SPECIFICATIONS Standalone GPS system, Navigon mapping software, UK and Western Europe maps, MP3 player, 400MHz Intel XScale processor, 3.5" 320x240x65k colour LCD, USB connection, SD card slot, 82x129x35mm, weighs 218g

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	16 SECONDS	CONGESTION CHARGE	NO
SHOPPER TO EDINBURGH	1 MINUTE 52 SECONDS	ROADBLOCK	YES

REVIEW STANDALONE GPS

GARMIN
StreetPilot i3

RATING ★★

PRICE £160 inc VAT

SUPPLIER www.comet.co.ukDETAILS www.garmin.com

As the cheapest and smallest system in the group, Garmin's Streetpilot i3 is an attractive prospect that is let down by its terrible mapping.

The i3's diminutive size means a touch screen wouldn't be practical, so you enter addresses using a scroll wheel. The i3 is the only standalone system to support entire postcodes, so you don't always have to select a street name.

The i3 takes three to four minutes to get a satellite fix when you first turn it on, but regaining a fix after losing reception takes very little time. Strangely, the i3 took a while to plot a short route through London, but was very fast to plan a route to Edinburgh.

Navigating with the i3 is a very frustrating experience. Even though the small display clearly shows your route and the distance to the next turn, the software updates so slowly that we often missed the next turning before the i3 had updated to show the previous turn, making it useless in town.

Garmin's Streetpilot i3 is very cheap and beautifully designed, but the navigation software runs too slowly to be much use at tricky junctions.

✓ Cheap; well designed ✗ Appalling navigation

SPECIFICATIONS Standalone GPS system, Garmin mapping software, UK maps, 2.1" 220x176x32k colour LCD, USB connection, TransFlash slot, 69x74x62mm, weighs 150g

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	30 SECONDS	CONGESTION CHARGE	NO
SHOPPER TO EDINBURGH	41 SECONDS	ROADBLOCK	YES

REVIEW STANDALONE GPS

EVESHAM
BlueMedia BM6380

RATING ★★★★★

PRICE £300 inc VAT

SUPPLIER www.lowestonweb.comDETAILS www.lowestonweb.com

It may have a tricky interface, but Evesham's BlueMedia BM6380 has better mapping than any of the standalone systems in the group.

It didn't make any mistakes on our test route. The Destinator mapping software deals particularly well with turnings that quickly follow one another, warning you before the turning that the next road follows immediately afterwards. The map display is clear and uncluttered. The tiny status icons make it hard to change options on the display without the stylus, so you can't change from 2D to 3D view when driving.

Entering addresses is time consuming, as each button has several letters assigned to it. It also takes longer than other systems to get a GPS fix, but once it has it quickly calculates complicated routes. There's no roadblock function, but recalculating the route eventually got us around a closed street.

The Evesham BlueMedia BM6380's interface is not as polished as those on the TomTom and Navman devices, but the mapping software is the best in the standalone group. If you need the most accurate navigation software possible, this is the standalone system to have.

✓ Highly accurate mapping ✗ Slow to find a GPS fix; fiddly interface

SPECIFICATIONS Standalone GPS system, Destinator mapping software, UK maps, MP3 player, 192MHz Atlas-A Arm9 processor, 3.5" 320x240x65k colour LCD, USB connection, SD card slot, 69x118x16mm, weighs 158g

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	4 SECONDS	CONGESTION CHARGE	NO
SHOPPER TO EDINBURGH	20 SECONDS	ROADBLOCK	NO

REVIEW STANDALONE GPS

MIO
269+

RATING ★★★

PRICE £345 inc VAT

SUPPLIER www.handtec.co.ukDETAILS www.mio-tech.com

Mio's 269+ uses the same Navigon software as Advent's GPS 400, but it has 500MB of space on its 2.5GB internal hard disk for music, contacts and photos, as well as maps of Western and Eastern Europe.

The 269+ has the same processor as Advent's GPS 400, but the 269+ runs the Navigon software far more smoothly. However, route calculation over long distances is still slow compared to the other standalone systems.

Address searches must be narrowed down to a city or the first four characters of a postcode before you can look for a road. The 269+ finds a GPS fix quickly, and the mapping software is second only to the Destinator package in the Evesham in its clarity of instructions and mapping accuracy.

Mio's 269+ is not as easy to use as TomTom's Go 300, but it does come with more accurate mapping software. However, Advent's GPS 400 is £75 cheaper so, unless you need the Eastern European maps and extra storage space, that is a better buy.

✓ Europe-wide coverage ✗ Expensive

SPECIFICATIONS Standalone GPS system, 400MHz Intel XScale processor, Navigon mapping software, UK, Western and Eastern Europe maps, MP3 player, 3.5" 320x240x65k colour LCD, USB connection, SD card slot, 2.5GB hard disk (500MB free space), 78x138x26mm, weighs 226g

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	22 SECONDS	CONGESTION CHARGE	NO
SHOPPER TO EDINBURGH	1 MINUTE 35 SECONDS	ROADBLOCK	YES



REVIEW STANDALONE GPS

NAVMAN
iCN 520

RATING ★★★★★

PRICE £280 inc VAT

SUPPLIER www.e-bowl.co.ukDETAILS www.navman.com

Navman's iCN 520 has a fast interface and clear voice prompts, but the lack of a roadblock function lets it down. It is the slimmest and lightest standalone system in the group. Its interface is second only to the TomTom's in terms of speed, and the buttons are large enough to operate with your finger rather than the stylus. The unit supports up to four letters of a postcode, but unlike the other standalone systems you can type in a road name without specifying one, which is useful for finding out-of-the-way roads.

The iCN 520's navigation screen is cluttered, but the display updates quickly and clear voice prompts are given a decent distance before a turning. There are also several view options, including one that shows a map of the upcoming junction and the road to take, which is far simpler and clearer than a 3D view. Unlike most other systems, the iCN 520 has no roadblock function, so we had to use a map to navigate around closed roads.

Navman's iCN 520 is a competent navigation system with a fast and logical interface, but the surprising lack of a roadblock function means it can't compete with the similarly priced TomTom Go 300.

✓ Fast interface; multiple view options

✗ Busy display; no roadblock function

SPECIFICATIONS Standalone GPS system, Navman mapping software, UK and Ireland maps, 300MHz Intel PXA-255 processor, 3.5" 320x240x65k colour LCD, USB connection, SD card slot, 68x122x24mm, weighs 166g

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM 11 SECONDS
SHOPPER TO EDINBURGH 40 SECONDS

CONGESTION CHARGE NO
ROADBLOCK NO

REVIEW GPS PDA

ACER
n35 GPS

RATING ★★★★★

PRICE £230 inc VAT

SUPPLIER www.comet.co.ukDETAILS www.acer.co.uk

Like Mio's 168, Acer's n35 is a PDA with a built-in GPS antenna. It runs the Pocket PC version of Destinator's navigation software.

The n35 is thicker and heavier than Mio's 168, but feels sturdy. Its 266MHz processor is not as fast, but it runs the normal suite of Pocket PC applications smoothly enough. The main Destinator interface runs faster than on the standalone Evesham BM6380, but you have to use the stylus to enter addresses, as the software uses the Pocket PC onscreen keyboard for text entry.

Despite its slow processor, route calculation is fast. Short trips are plotted almost instantly, and the route to Edinburgh took just 30 seconds to calculate.

The Destinator software was impressive on the road. Instructions were given in plenty of time and repeated at the turning, and our position was updated onscreen immediately after a junction. It lacks a dedicated roadblock function, so getting around a block requires recalculating the route manually.

Acer's n35 is a competent PDA with decent navigation software. For £230 including VAT, it is extremely good value.

✓ Accurate navigation software; great value

✗ Not a particularly fast processor

SPECIFICATIONS PDA with integrated GPS, Destinator 3 mapping software, UK and Ireland maps, 266MHz Samsung S3C2410 processor, 64MB RAM, 3.5" 240x320x65k colour LCD, 120x72x20 mm, weighs 165g

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM 7 SECONDS
SHOPPER TO EDINBURGH 30 SECONDS

CONGESTION CHARGE NO
ROADBLOCK NO

REVIEW STANDALONE GPS

TOMTOM
Go 300

RATING ★★★★★

PRICE £282 inc VAT

SUPPLIER www.amazon.co.ukDETAILS www.tomtom.com

TomTom's Go 300 has a superb interface. It is easier to use than the other standalone GPS systems, but its navigation software is not as accomplished as the Navigon-based systems. The touch screen is big enough for you to use your finger to select icons, and there's no lag when scrolling through the options.

Planning a route is also simple. You can enter a city or postcode, followed by the street name and house number. The TomTom also has the option to navigate directly to the city centre or to a Point of Interest (POI) within a city.

Route calculation is fast. The TomTom took just six seconds to plan a route to South London and 22 seconds to navigate to Edinburgh, putting it near the top of the standalone group. This was the only standalone unit to warn of us about the Congestion Charge in central London.

The TomTom's display is clear and easy to read, and the software made a reasonable job of navigating around London. It was sometimes slow to update once a turn was taken and twice tried to send us down a one-way street. The Destinator software in the Evesham system made fewer mistakes. However, the TomTom's ease of use makes it an excellent buy.

✓ Very easy to use; clear display

✗ Occasionally inaccurate navigation

SPECIFICATIONS Standalone GPS system, TomTom mapping software, UK maps, 200MHz ARM920T processor, 32MB RAM, 3.5" 320x240x4096 colour LCD, USB connection, SD card slot, 91x114x58mm, weighs 312g

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM 6 SECONDS
SHOPPER TO EDINBURGH 22 SECONDS

CONGESTION CHARGE YES
ROADBLOCK YES

REVIEW GPS PDA

MIO
168 + Navigon

RATING ★★★

PRICE £311 inc VAT

SUPPLIER www.savastore.comDETAILS www.mio-tech.com

Mio's 168 is a PDA with an integrated antenna. The version we tested came with Navigon's navigation software. It is no bigger than a normal PDA and has all the normal Windows Mobile features. Setting up the GPS software is easier than when using a PDA with an external Bluetooth receiver, as all you need to do is fold the aerial up into position.

The 168 runs the Navigon software in portrait mode. This makes the menus easier to use, as the routing options and addresses are arranged in a list. However, the navigation screen is more crowded, and only half the screen is dedicated to the 2D or 3D view of your route.

The 168 is quick to get a GPS fix, but its 300MHz processor takes a very long time to plan a long route; it needed over two-and-a-half minutes to plot a route to Edinburgh. Once on the move, however, it is hard to fault the 168's clear voice prompts and accurate positioning.

Mio's 168 is a competent navigation system and a decent PDA, but if you don't need the European maps Acer's n35 is better value.

✓ Easy setup

✗ Crowded navigation screen; slow route calculation

SPECIFICATIONS PDA with integrated GPS, Navigon mapping software, UK, Western and Eastern Europe maps, 300MHz Intel XScale processor, 64MB RAM, 3.5" 240x320x65k colour LCD, 113x70x24mm, weighs 147g

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM 19 SECONDS
SHOPPER TO EDINBURGH 2 MINUTES 33 SECONDS

CONGESTION CHARGE NO
ROADBLOCK YES



REVIEW POCKET PC GPS KIT

ALK
CoPilot Live 6 Pocket PC

RATING ★★★★★

PRICE £211 inc VAT

SUPPLIER www.misco.co.ukDETAILS www.alk.com

CoPilot Live 6 for Pocket PC has a clear navigation display, but it doesn't run as smoothly as TomTom Navigator 5 for Pocket PC.

Of all the Pocket PC navigation packages, CoPilot Live 6 has the best-looking interface. The large icons and clear menus make it easy to use, though the onscreen keyboard for entering addresses is too small to use with your finger. It is one of only three systems to recognise the Congestion Charge zone.

CoPilot supports up to five letters of a postcode, which is enough to narrow the address list down to a few streets. The program ran more slowly on our test PDA than TomTom's software, so scrolling through address lists is a tedious process. However, route calculation is fast; the trip to Edinburgh took just 14 seconds to plot.

The 3D view is clear, and the minimalist safety mode is excellent for driving at night, as the display shows the minimum information you need to find each turning. It can sometimes be slow to update after a turn, though.

CoPilot Live 6 is a competent navigation package, but TomTom's Navigator 5 runs much faster and is better value.

✓ Simple to use; very clear safety mode

✗ Slow interface

SPECIFICATIONS Pocket PC GPS kit, Copilot Live 6 mapping software, UK maps, 256MB SD card, SiRFstarIII Bluetooth GPS receiver

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	8 SECONDS	CONGESTION CHARGE	YES
SHOPPER TO EDINBURGH	14 SECONDS	ROADBLOCK	YES

REVIEW POCKET PC GPS KIT

TOMTOM
Navigator 5 Palm Bluetooth

RATING ★★★★★

PRICE £187 inc VAT

SUPPLIER www.totalpda.comDETAILS www.tomtom.com

The Palm OS version of TomTom's Navigator 5 has the same clear interface and 3D display as the standalone and Pocket PC versions, but it doesn't run as smoothly. The icons are identical to the other versions, but strangely the Palm version supports only the first four characters of a postcode and not the first five, as supported on the Pocket PC edition. The Palm version also has slightly more lag than Navigator 5 for Pocket PC, but the difference is barely noticeable.

Planning a route is just as fast as on the other TomTom systems, and far faster than the Destinator or Navigon packages. Navigator 5 warns you when a route crosses the Congestion Charge zone, and you can avoid roadblocks from 100 yards to three miles up the road. Voice prompts are given well in advance, but the software is sometimes slow to update after a turn.

TomTom's Navigator 5 for Palm OS shares all the strengths of the other TomTom versions, but its more limited postcode support and responsiveness lose it a star.

✓ Excellent interface

✗ Limited postcode support

SPECIFICATIONS Palm OS GPS kit, TomTom Navigator 5 mapping software, UK maps, 128MB SD card, SiRFstarIII Bluetooth GPS receiver

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	4 SECONDS	CONGESTION CHARGE	YES
SHOPPER TO EDINBURGH	20 SECONDS	ROADBLOCK	YES

REVIEW POCKET PC GPS KIT

NAVMAN
4420 Bluetooth

RATING ★★★★★

PRICE £175 inc VAT

SUPPLIER www.clove.co.ukDETAILS www.navman.com

The 4420 GPS kit from Navman consists of the Navman SmartST V3 software and a Bluetooth receiver. It is a competent navigation system, but it is blighted by an annoying installation procedure and it's not supplied with a memory card, so you will need to buy a 128MB or 256MB card depending on how many countries you want to install.

The software and maps are supplied on several CDs. A desktop application synchronises with your Pocket PC to install the Navman application and maps. However, every map has to be activated over the net, which requires filling in a significant amount of personal information and is very time-consuming.

Once the system is up and running it is easy to use, although you need the stylus to enter addresses. The navigation software is as accurate as the standalone Navman system, but with the Pocket PC version you can select areas to avoid by drawing a square on the PDA's screen.

Navman's 4420 is a reasonable navigation system and is good value for a kit with European maps. However, it is harder to set up than the equivalent systems from TomTom and CoPilot.

✓ Excellent roadblock feature

✗ Nightmare installation

SPECIFICATIONS Pocket PC GPS kit, Navman Smart ST mapping software, Western Europe maps, 12-channel Bluetooth GPS receiver

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	15 SECONDS	CONGESTION CHARGE	NO
SHOPPER TO EDINBURGH	52 SECONDS	ROADBLOCK	YES

REVIEW POCKET PC GPS KIT

TOMTOM
Navigator 5 Pocket PC Bluetooth

RATING ★★★★★

PRICE £184 inc VAT

SUPPLIER www.savastore.comDETAILS www.tomtom.com

Navigator 5 on the Pocket PC works in the same way as TomTom's standalone Go 300. The interface is designed to be used without a stylus, so the icons and onscreen keyboard are huge. The software runs far faster than any of the other Pocket PC systems, so planning a route is painless.

Navigator 5 shares the standalone system's clear 3D display, but the PDA's portrait format means the display is slightly more cluttered than that of the Go 300. It also made the same mistakes as the Go 300 on our test route, so we had to use the roadblock feature to take us round a one-way street. The voice prompts are very clear, however, as long as the PDA's volume is on the maximum setting.

TomTom's Navigator 5 for Pocket PC is just as impressive as TomTom's standalone system. While its route-planning is not quite as accurate as the CoPilot Live system, it has a faster interface and is significantly cheaper.

✓ Fast, clear interface

✗ Occasional route-planning mistakes

SPECIFICATIONS Pocket PC GPS kit, TomTom Navigator 5 mapping software, UK maps, 128MB SD card, SiRFstarIII Bluetooth GPS receiver

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	5 SECONDS	CONGESTION CHARGE	YES
SHOPPER TO EDINBURGH	19 SECONDS	ROADBLOCK	YES



REVIEW SMARTPHONE GPS KIT

ALK CoPilot Live 6 Windows Mobile for Smartphones

RATING ★★★★★

PRICE £180 inc VAT

SUPPLIER www.eurosim.comDETAILS www.alk.com

As smartphones don't have touch screens, ALK's CoPilot Live 6 uses the phone's soft keys and number pad to navigate the menu and enter addresses. ALK has sensibly stuck to the Windows Mobile for Smartphones menu system, so changing from navigating the phone's operating system to CoPilot is easy. To find an address, you have to enter the street name and city, but the software is far slower than the TomTom software when searching its database.

Luckily, route planning is fast and the navigation software runs smoothly when on the road. The 3D display is uncluttered and clear on the smartphone's small screen, and the cut-down safety mode that just displays turn information works well, especially at night. The software is sometimes slow to catch up after a turn, however, so we missed a turning a couple of times.

CoPilot Live 6 has the same clear display and stress-free navigation as its Pocket PC cousin, but it ran too slowly on our test smartphone to recommend over the TomTom smartphone package.

✓ Clear navigation display

✗ Slow interface

SPECIFICATIONS Windows Mobile for Smartphones GPS kit, CoPilot Live 6 mapping software, UK and Ireland maps, 256MB SD card, SiRFstarIII Bluetooth GPS receiver

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	8 SECONDS	CONGESTION CHARGE	YES
SHOPPER TO EDINBURGH	20 SECONDS	ROADBLOCK	YES

REVIEW SMARTPHONE GPS KIT

ROUTE 66 Mobile 7

RATING ★★★★★

PRICE £190 inc VAT

SUPPLIER www.pdacentral.co.ukDETAILS www.66.com

Like the Navicore system, Route 66's Series 60 GPS software comes preinstalled on a memory card and is supplied with a Bluetooth GPS receiver. Installing the software is simply a case of plugging in the memory card and switching on the phone. It then installs automatically and is activated by text message.

Plotting a route is done using waypoints. The system for finding a road is very flexible. Instead of having separate categories for city, postcode and street, there is just one box in which you can freely type all the address information you know. Then the software searches its database to find matches. Getting used to the system takes time, but after a while it seems more natural than the more rigid systems offered elsewhere.

Driving voice prompts were not always given in advance of a turn, but the directions were comprehensive. The software gives instructions such as 'turn slightly left' if there is any ambiguity as to the direction you should take.

Route 66 is simple to use and easy to get along with on the road, but it loses out to the Navicore system due to its lack of a roadblock function.

✓ Very fast route calculation; comprehensive voice prompts

✗ No roadblock function

SPECIFICATIONS Symbian Series 60 GPS kit, Route 66 mapping software, UK maps, 256MB RS-MMC card, SiRFstarIII Bluetooth GPS receiver

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	4 SECONDS	CONGESTION CHARGE	NO
SHOPPER TO EDINBURGH	40 SECONDS	ROADBLOCK	NO

REVIEW SMARTPHONE GPS KIT

NAVICORE Personal for Series 60

RATING ★★★★★

PRICE £175 inc VAT

SUPPLIER www.mobilefun.co.ukDETAILS www.navicore.fi

Navicore's Personal for Series 60 navigation software is a GPS kit for Nokia smartphones. It has a flexible interface and the clearest instructions of any smartphone GPS system in the group.

The Navicore system is unusually flexible in how it lets you input addresses. You can enter a street name first followed by a city or postcode, or vice versa, and the software narrows down the list of addresses accordingly. This system is particularly useful if you are navigating to an address in the country and you don't know its postal town.

The Navicore system is great at navigating around town, because it can deal with multiple lanes. The software tells you clearly when you need to keep left or right at a junction where the road forks. The 3D display also updates smoothly and keeps up with your progress. The Navicore kit has an excellent roadblock function; instead of just specifying a block at a certain distance, you can select the roads to avoid on the map display.

Despite its fairly slow route planning, Navicore's Series 60 navigation software is easy to use and has some useful features. It is also great value.

✓ Flexible interface; excellent navigation in cities

✗ Sluggish route planning

SPECIFICATIONS Symbian Series 60 GPS kit, Navicore Personal mapping software, UK maps, 256MB RS-MMC card, SiRFstarIII Bluetooth GPS receiver

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	12 SECONDS	CONGESTION CHARGE	YES
SHOPPER TO EDINBURGH	1 MINUTE 30 SECONDS	ROADBLOCK	YES

REVIEW SMARTPHONE GPS KIT

TOMTOM Mobile 5 Windows Mobile for Smartphones

RATING ★★★★★

PRICE £190 inc VAT

SUPPLIER www.mobilefun.co.ukDETAILS www.tomtom.com

TomTom Mobile 5 Windows Mobile for Smartphones has a clear and fast interface. TomTom has tried to replicate the feel of its touch-screen systems as closely as possible, and the software works well on a phone. The icons and menu structure are almost identical, but instead of touching the option you need, you select it with the phone's joystick. The interface isn't quite as fast as the other versions, but it is still quicker than the CoPilot smartphone software.

The Bluetooth receiver takes a while to find a GPS fix, but it managed to hold a signal even in heavily built-up areas. Voice prompts are clear and given in plenty of time before a junction, and the 3D display gives you a good idea of the route to take.

TomTom Mobile 5 is the better of the two navigation systems in the group for Windows-based smartphones, but if you don't yet have a phone, the Navicore system above is a better bet due to its clearer navigation screen. **CS**

✓ Fast; very easy to use

✗ Display not as clear as Navicore system

SPECIFICATIONS Pocket PC GPS kit, TomTom Navigator 5 mapping software, UK maps, 128MB SD card, SiRFstarIII Bluetooth GPS receiver

ROUTE CALCULATION TIMES AND FEATURES:

SHOPPER TO CLAPHAM	7 SECONDS	CONGESTION CHARGE	YES
SHOPPER TO EDINBURGH	32 SECONDS	ROADBLOCK	YES